CLAIMS

1. A vector for secretory expression of an intact MK family protein by methylotrophic yeast, said vector comprising a gene encoding a mature MK family protein ligated to a signal sequence of α1 factor derived from *Saccharomyces cerevisiae*.

2. The vector according to claim 1 comprising components (a) to (g) below:

(a) a promoter sequence of a methanol-inducible alcohol oxidase gene (AOX1) derived from *Pichia pastoris*,

(b) a signal sequence of α1 factor derived from *Saccharomyces cerevisiae*,

(c) a gene encoding a mature MK family protein, wherein said gene is ligated to (b),

(d) a transcription termination sequence of a methanol-inducible alcohol oxidase gene (AOX1) derived from *Pichia pastoris*,

(e) a selection marker gene functioning in *Escherichia coli* and methylotrophic yeast,

(f) a replication origin functioning in *Escherichia coli*, and

(g) 5′ AOX1 and 3′ AOX1 for the site-specific homologous recombination to a methylotrophic yeast chromosomal DNA.

3. The vector according to claim 1, wherein said MK family protein is MK protein.

4. The vector according to claim 1, wherein said MK family protein is PTN protein.

5. A transformant comprising methylotrophic yeast transformed with the vector according to any one of claims 1 to 4.

6. The transformant according to claim 5, wherein said transformant is pPIC9DP-hMK/SMD1168, said vector is the one according to claim 3, and said methylotrophic yeast is strain SMD1168.

7. The transformant according to claim 5, wherein said transformant is pPIC9-hPTN/GS115, said vector is the one according to claim 4, and methylotrophic yeast is strain GS115.

8. A method for producing an intact MK family protein, said method comprising culturing the transformant according to any one of claims 5 to 7 and recovering secretory expression products.

9. The method according to claim 8, said method comprising:

(a) culturing the transformant according to claim 6,

(b) inducing the expression of MK protein under the conditions of 20°C and pH 3 after the proliferation at pH 4, and

(c) recovering secretory expression products.